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Committee on Resources
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Thank you for the opportunity to speak before you today.

My name is Doug Woodby and I am employed as a Fisheries Scientist by the Alaska Department of Fish and Game in Juneau. My responsibilities include oversight of the research activities for marine commercial fisheries managed by the State of Alaska. Those fisheries include crab, shrimp, groundfish, and herring. I am also a member of the Scientific and Statistical Committee (the SSC) of the North Pacific Fishery Management Council (NPFMC), and it is in relation to my appointment to the SSC that I am testifying here today.

I will focus on three of the questions posed in my letter of invitation to this hearing:

- 1) How is science integrated into management?
- 2) Why is Alaska fisheries management considered better/different than management in other parts of the country?
- 3) What lessons can we learn from the North Pacific for the reauthorization of the Magnuson-Stevens Act?

Integration of Science into Management

National Standard 2 of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires that the best available scientific information be used in conservation and management decisions made by the councils. The MSA also requires that each council establish an SSC to assist in evaluating scientific information for management. This requirement has been interpreted broadly by the NPFMC, such that all information used in their decision making, having either a biological or socioeconomic basis, is passed through the SSC. In this way the SSC acts as a peer-review body for the NPFMC.

There are two types of scientific information that regularly come before the SSC: 1) annual stock assessments for each of the managed species, and 2) Environmental Assessments or other analyses required for regulatory actions or changes, including allocation changes.

Stock Assessments

The purpose of the stock assessments is to provide an estimate of the biomass for each managed species and to recommend an acceptable biological catch limit. The “best science” process is a three step peer review beginning with the stock assessment authors, who are typically well regarded scientists with the Alaska Fishery Science Center, and in a few cases with the Alaska Department of Fish and Game. Every year, these authors prepare Stock Assessment and Fishery Evaluation reports (SAFE reports) that are often based on rigorous and complex mathematical methods for estimating population sizes.

SAFE reports are first reviewed internally by the management agency (the Alaska Fishery Science Center for groundfish SAFEs) and then forwarded to the plan teams. The NPFMC has four plan teams comprised of federal, state, and academic fishery scientists and economists: two for groundfish (Gulf of Alaska and Bering Sea/Aleutian Islands) and one each for crabs and scallops. The plan team review of SAFE documents is public, and after review, the revised SAFE reports are presented to the SSC for a final public review. The chair of the SSC apportions the review assignments among the 15 SSC members so that each member can focus their review on one or several species, usually in their area of expertise. The SSC pays close attention to the quality of the data, the analytical methods used to estimate biomass and Acceptable Biological Catch (ABC) limits, and the validity of the conclusions. The SSC will either agree with the assessments, or will recommend changes where appropriate, and forward the recommended ABC limits on to the Council. The SSC also makes specific comments directed at improving the SAFE reports, and this provides important feedback to the stock assessment authors who address each comment in the following year's SAFE report.

Why does this process provide the best science for management? The review of scientific work by the plan teams and the SSC in a public forum is a significant feedback to the scientists and agencies that prepared the assessments. For most of these authors, the SAFE reports represent their latest and best work. There is significant professional pride in incorporating the best methods and using the best data appropriately, and having the SAFE received without undue criticism by the SSC.

Environmental Assessments and Other Analyses

The SSC also reviews analyses (including EAs, RIRs, and IRFAs), of the effects of proposed regulatory actions. These reviews encompass the integrity of economic and social considerations, as well as biological factors that are taken into account in assessing potential impacts. These analyses often appear several times in front of the SSC, usually over the course of several Council meetings. The SSC provides comments for improvements, and in the end makes recommendation as to whether an analysis has met the "best scientific information" standard and is ready for release to the public for review.

In a few cases, independent reviews by scientists outside of the SSC are sought for complex and controversial scientific issues, such as the relationship between fisheries and populations of endangered Steller Sea Lions, and the effects of fishing on essential fish habitat, conducted by the National Research Council and the Council of Independent Experts, respectively. These reviews have been expensive and time-consuming, but were valuable in providing perspectives and conclusions that would have been an inordinately consuming task for the SSC.

Alaska's Fisheries Management: Better or Different?

The NPFMC has a laudable record in providing sustainable fisheries that have generated significant economic activity. Three of the notable features of management in the North Pacific are the overall catch limits for groundfish, the observer program, and the how the SSC is used to integrate best science into management.

Overall Catch Limits

Groundfish catches in the Bering Sea and Aleutian Islands are capped at a maximum of 2 million metric tons (mt) each year, even though the sum of the annual ABC levels may be much larger. The same is true for the Gulf of Alaska, where the cap is 800,000 mt. These caps were established as a precautionary measure and include bycatch. In effect, the caps are simple management measures that recognize the importance of allowing surplus production to remain in the ecosystem for non-human uses, such as predation and decomposition.

Observer Program

To ensure that catches, including bycatch, stay within Total Allowable Catch (TAC) limits, an extensive onboard observer program was put in place in 1990. The result was an industry-funded program where virtually all large vessels over 125 feet carry observers all the time when fishing, and vessels between 60 and 125 feet carry observers 30% of the time. Each year, there are upwards of 36 to 37 thousand observer days at sea monitoring weights and sampling catches. Observer data is important for management decisions to close fisheries as they approach catch limits, and is a rich source of information on catch location and bycatch of non-target species.

SSC and Best Science

There are various degrees of differences among the eight regional councils in how they conduct their scientific review processes¹. Several of the positive aspects of the SSC structure and process in the North Pacific are shared by other regional councils, so it would be unfair to say that the North Pacific process for integrating science is necessarily better. However; it is possible to list some of the positive aspects, some shared with other councils, and perhaps these might serve as a model for all councils:

- 1) The NPFMC relies on the SSC to act as the peer review body for all stock assessments and required analyses based on scientific and economic information.
- 2) Members of the SSC in the North Pacific cover a broad suite of expertise, including economics, ecology, socioeconomics and anthropology, as well as the more usual expertise in fishery biology and population dynamics.
- 3) The SSC meets at the same time as the NPFMC at the same location. This provides the public with the opportunity to participate in both meetings, and to allow quick turnaround for recommendations by the SSC to the Council.
- 4) The NPFMC has never exceeded an ABC recommended by the SSC. In fact, TAC is restricted to being less than the ABC for groundfish as specified by amendments to the council's two groundfish fishery management plans.

Reauthorization of the MSA: Lessons from the North Pacific

I will highlight just one lesson, and that is that the SSC provides the necessary independent scientific peer review of stock assessments and analyses for the NPFMC, as supplemented by occasional reviews by other entities. Hence, there is no clear need for developing an alternative peer review process, although some improvements might be made.

The NPFMC's deference to the recommendations of the SSC has engendered a respect for the SSC process, empowering the SSC to base recommendations on best available science, uninfluenced by allocation issues. SSC members know that their recommendations have a strongly positive impact on the conservation of fishery resources in the North Pacific, and for this reason, members value their appointment to the committee and expend considerable intellectual energy to achieve a successful process. If an alternate peer review process was established that diminished the role of the SSC, prominent scientists might choose not to continue their public service on the SSC.

¹ Witherell, D. 2005. Use of scientific review by the regional fishery management councils: the existing process and recommendations for improvement. A draft paper presented at the "Managing Our Nation's Fisheries II" conference, Washington, D.C., March 2005.